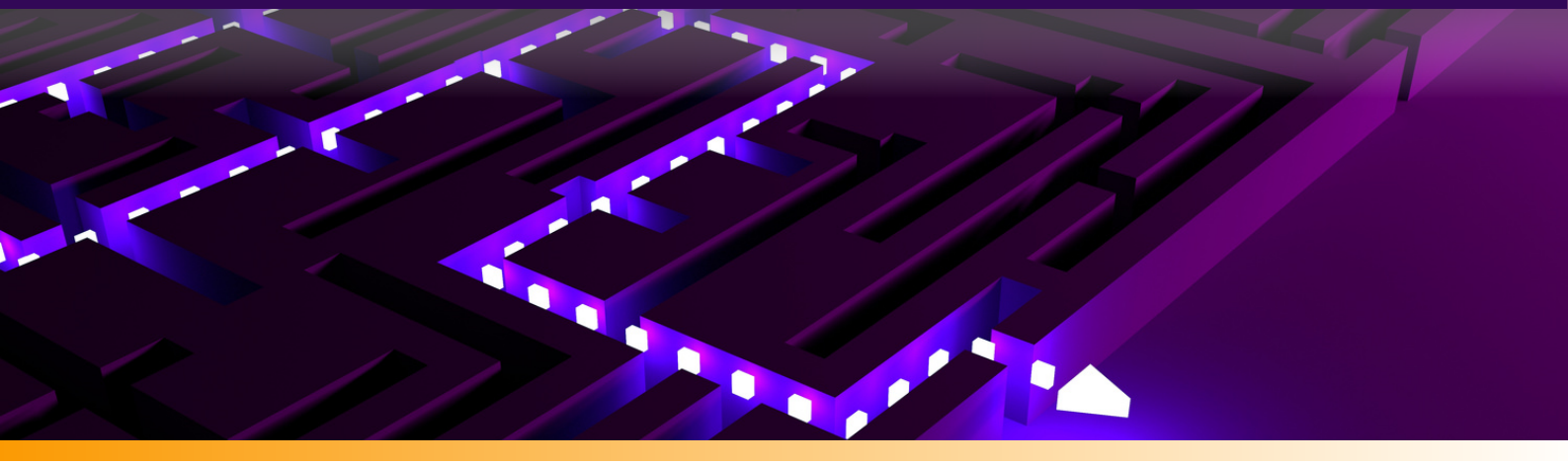
505(b)(2) Regulatory Pathway - Clinical Pharmacology Services



What is a 505(b)(2) New Drug Application?

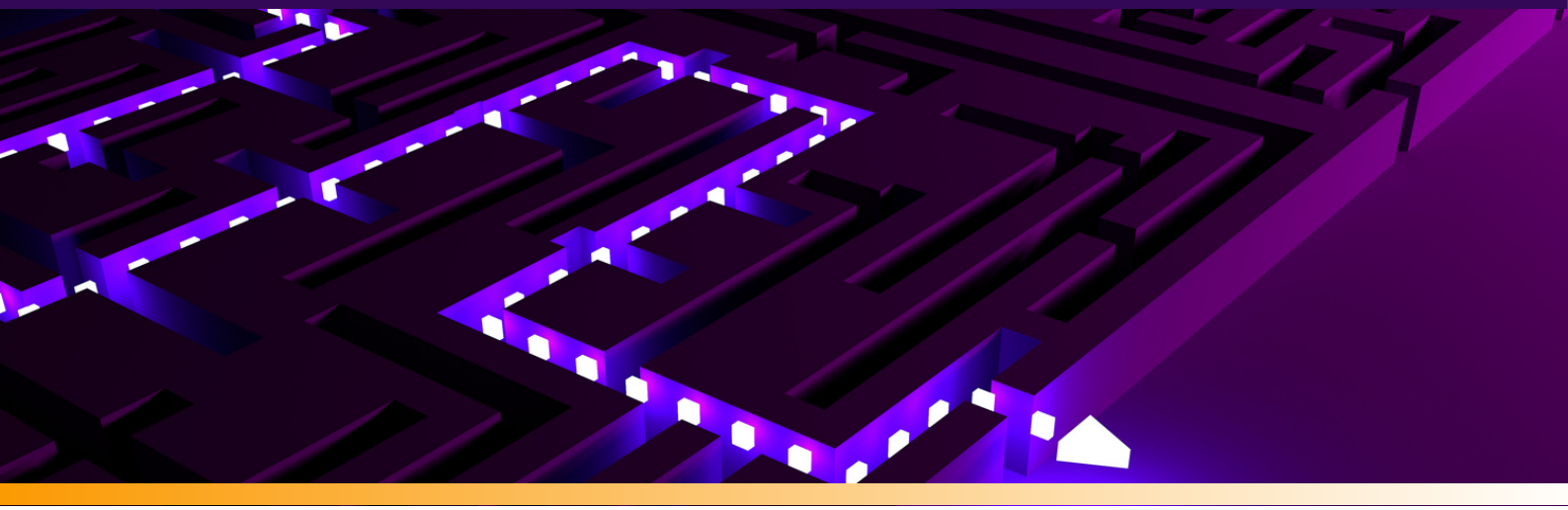
The 505(b)(2) pathway is a streamlined New Drug Application (NDA) process that enables investigators and manufacturers to apply for approval in the US without having to repeat all the drug development work done for an innovator drug (sometimes called the original drug). Unlike an abbreviated NDA (ANDA), which is the pathway used to approve a generic drug when the innovator drug is nearing patent expiration, the 505(b)(2) is usually reserved for situations in which a modification (often an improvement) is being made to the innovator drug resulting in the creation of a new "drug product" — with its own exclusivity.

A 505(b)(2) program often requires an investigation of the clinical PK, safety, and efficacy of the new drug product. However, according to the 505(b)(2) guidance, the application may rely on vast amounts of information from existing literature and from the FDA's previous findings of PK (e.g., absorption, distribution, metabolism, and excretion), safety, and sometimes efficacy with the innovator drug, saving time and expense. In essence, a 505(b)(2) NDA is a hybrid application – that blends old and new drug information – when seeking FDA approval for a new drug product.

505(b)(2) Development Strategies

When thinking about a 505(b)(2) development program, one should determine how the new drug product is different (and similar) to the innovator drug, especially in relation to its PK and PK/PD characteristics. From there, you can leverage all information relevant to the new drug product by creating a "PK bridge" linking the in vivo performance of the new drug product to that of the innovator drug product (e.g. matching PK exposure and time course, understanding PK variability, establishing, or understanding PK/PD relationship(s) used to define the therapeutic index to assess clinical impact, and designing more efficient confirmatory studies.

Understanding how to link the two products best is an essential step in maximizing the full streamlining capability of the 505(b)(2) approach and requires experts in these techniques to be successful. Allucent can help with your program's 505(b)(2) strategy by helping create the strongest PK (and sometimes PK/PD) modeling and development plans needed for your 505(b)(2) program.



Allucent's 505(b)(2) Experience

Allucent's senior scientific staff has extensive experience supporting 505(b)(2) development programs from both a strategic and operational perspective. We leverage our knowledge in clinical pharmacology, nonclinical (including CMC), clinical, regulatory, and overall drug development expertise to find the right path for a 505(b)(2) program. Allucent has been involved in dozens of 505(b)(2) programs. Some examples of 505(b)(2) programs and a summary of clinical pharmacology services are provided are listed below:

Examples of 505(b)(2) Programs:

- Abuse deterrent dosage for high-dose, long-acting opioids.
- Clonidine extended-release formulation.
- Intranasal formulation of a small molecule drug for acute repetitive seizures.
- Two 505(b)(2) programs of inhaled drugs.
- IV to SC dosing for an antibiotic.
- Combination treatment (two previously approved drugs) for bleeding.
- Oral to IV dosing for treatment of ischemic deficit.

Summary of 505(b)(2) Services:

- Comprehensive Clinical Pharmacology strategic consulting
- Evaluation of new formulations, fixed dose combinations, new indications, and new routes of administration
- Comparative BA with RLD
- Formulation performance studies
- Support for regulatory meetings

Contact us to speak with one of our senior consultants about the 505(b)(2) pathway, and how it can be used to get your drug to market faster and more efficiently.

For additional reading on this topic: Freije I, Lamouche S, Tanguay M. Review of Drugs Approved via the 505(b)(2) Pathway: Uncovering Drug Development Trends and Regulatory Requirements. Ther Innov Regul Sci. 2020 Jan;54(1):128-138. doi: 10.1007/s43441-019-00036-y. Epub 2020 Jan 6. PMID: 32008242.